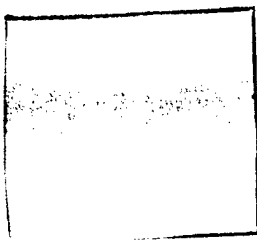


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JPRS: 2421

6 April 1960

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FOR THE WELFARE OF MAN  
DEVELOPMENT OF MEDICAL SCIENCE IN THE USSR

- USSR -

by Prof. V. V. Parin

REPRODUCED FROM MAIN FILE

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NEW YORK 17, N. Y.

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## FOR THE WELFARE OF MAN

### DEVELOPMENT OF MEDICAL SCIENCE IN THE USSR

[This is a translation of an article written by Prof. V. V. Parin, Academician-Secretary of the Academy of Medical Sciences, Moscow, in "Priroda" (Nature), No 10, 1959, pages 51-54.]

In the task of fulfilling the Seven-Year Plan of the development of the national economy of the USSR an honorable role belongs to science and to the men of science; the wise decisions of the 21st Congress of the CPSU are imbued with solicitude for the further flowering of science. It is natural that the basic trends of the development of Soviet medical science must be indissolubly connected with the fulfillment of the grandiose tasks outlined in the Seven-Year Plan.

In order to ensure maximum effectiveness of the work of scientist-physicians of our country, it is essential, first of all, to choose the foremost scientific problems and to concentrate the efforts of scientists and our material resources on their solution.

In the control figures of the development of national economy of the USSR during 1959-1965 it is stated that "the development of biology is the essential theoretical premise for enhancing medical science, as well as for agricultural sciences. The importance of the complex of biological sciences will particularly increase as the achievements of physics and chemistry are utilized in biology. Under this development an important role will be played by such branches of science as biochemistry, agrochemistry, biophysics, microbiology, virology, and genetics." We medical scientists, in reflecting on the means and prospects of the development of our science, are guided by these instructions of the Communist Party.

Who of us does not know, indeed, the vast, virtually revolutionary, significance to medical science and practice of the broad implementation of the achievements of modern nuclear physics, tagged atoms, electronics, etc? There is no doubt that this path which medicine

has basically undertaken only recently, promises still greater prospects in the future. In order to fulfill successfully the measures outlined in this direction, there is a need for considerable enhancement of the level of physical knowledge and interest in modern physics on the part of our scientists, from the young graduate students to the venerable clinicians and researchers. We can not conceal the fact that things are far from satisfactory in this respect, and that the difficulties connected with the introduction of the new technique of examination and treatment often compel some of our scientists to remain loyal to habitual, though obviously antiquated, methods.

During recent years certain success has been achieved in our country in the solution of a number of important theoretical problems of biology, microbiology and virology, immunology, and biochemistry, as well as of a number of highly important trends in normal and pathological physiology and morphology. As a result of achievements in these fields, appropriate attainments are being outlined in such branches of medical science as surgery (especially thoracic surgery), therapeutics, neurosurgery, oncology, and the control of infectious diseases. However, there remains a serious lag in the development of scientific research in a number of highly important theoretical problems. There is insufficient development, for instance, of research in the physiology of human beings, the exceptional importance of which in clinical medicine requires no proof. At the same time, we can not help pointing out that modern methods of investigation, particularly those based on the utilization of electronic principles, render these works considerably more accessible than 15-20 years ago.

The seven-year plan of development of medical science in our country foresees a considerable expansion of activity in the field of such highly important problems as biochemistry and endocrinology. The development of scientific research work in the field of endocrinology has the most direct relation to the solution of such problems as atherosclerosis, cancer, physiology, and pathology of old age, etc.

Very inadequate attention has been paid until recently to research in genetics. The perspective plan of development of medical science outlined a number of investigations to overcome the lag in this science, which is of such considerable importance to theoretical as well as clinical medicine.

Medical science has as its final goal the ensuring of the health of man and of society as a whole. Therefore, its most important problems must be considered those which are connected with diseases causing the greatest harm to public health. Analysis of the morbidity structure, temporary loss of work capacity, disability, and mortality shows that such problems at the present time are primarily diseases of the cardiovascular system and malignant tumors.

In regard to the diseases of the heart and blood vessels there continues to remain the highly urgent further study of the pathogenesis and clinic of hypertension, rheumatic heart diseases, atherosclerosis, coronary insufficiency and myocardial infarct, and the affections of the cerebral and peripheral vessels. There is a need of further study of the early stages of these diseases for the purpose of the prompt detection, dispensarization, and treatment of such patients. Further search is needed in the field of prevention and therapy of cardiovascular diseases.

The Presidium of the Academy of Medical Sciences /AMS/ USSR, in attaching exceptional importance to the problem of diseases of the cardiovascular system, adopted a resolution on the organization of an All-Union Cardiological Society under the AMS USSR. The Presidium hopes that the organization of this Society will contribute to the creative unification of efforts of all specialists--morphologists, physiologists, biochemists, pathologists, microbiologists, therapists, and surgeons who are working on various trends of this extensive, complex, and nationally important problem.

The problem of malignant tumors continues to remain highly urgent. Certain success achieved in the development of this problem during the past 20-25 years cannot satisfy us. The scientific investigations in this field must be conducted in various directions, but particular attention must be given to expanding the volume of research works on the utilization of chemical substances, hormones and antibiotics in the therapy of tumors and leucoses, on the study of cancerogenic factors, and on the perfection of combined methods of treatment.

The success in building socialism in our country, which ensures a considerable rise in the cultural level of population and a marked amelioration of living conditions and the creation of a powerful network of therapeutic and prophylactic institutions, enables us to use a new approach to the subject of our tasks in the field of infect-

ious diseases. This new approach consists of the fact that at the present time we can and must think not only of controlling infectious diseases, but of eradicating infections as a real problem scientifically divided into definite stages.

In acknowledging that the problem of eradication of infectious diseases is one of the basic problems of the Seven-Year Plan, the Presidium of AMS USSR resolved to create a Committee to promote the Eradication of Infections, which has been entrusted with preparing a seven-year plan of activity in this direction. The Presidium has already confirmed a grouping of infections with respect to the prospects of their eradication, and certain institutes responsible, together with the Ministry of Health USSR, for outlining the basic directions of work on the eradication of infections, as well as rendering scientific and systematic aid in the scientific and practical work were designated.

The immense volume of construction and development of industry envisaged by the Seven-Year Plan of development of national economy will require the enlistment of new labor forces into production and a considerable rise in labor productivity. Labor productivity in industry must rise during the forthcoming Seven-Year Plan 45 to 50 percent, and that of agriculture even higher. This means that the value of each working day in industrial production is markedly enhanced. Therefore maintaining the work fitness of workers by means of reduction of morbidity will constitute one of the most important elements of the development and fulfillment of the national economy plan.

It is a known fact that diseases such as influenza, angina, catarrhal conditions of the upper respiratory tracts, gastro-intestinal diseases, purulent skin diseases, and occupational trauma cause a considerable loss in work-days as a result of temporary disability. During the past few years certain success, though entirely insufficient, has been achieved in regard to the reduction of these diseases. The AMS faces the important task of organizing in an efficient manner the scientific development of therapeutic and prophylactic measures for the reduction of the above-mentioned diseases.

Great tasks are ahead in the field of labor hygiene and occupational diseases. In this respect the problems related to the development of chemical industry in our country deserve special attention. The Seven-Year Plan envisages for a few new chemical products alone the

construction of 140 large plants and the reorganization and renovation of 130 plants. The leading themes of medical research work in this field is to be a study of the toxicology of new substances and aid to technology in the selection of technological methods which would insure maximum labor productivity and minimum detriment.

The urgency of the above-mentioned problem is determined by the fact that within the next few years there will be introduced into production thousands of new chemical substances with which no one but workers of chemical laboratories have had any contact. The problem is to establish maximum admissible concentrations of toxic substances and to devise scientifically substantiated instructions and rules of safe handling of these products.

New leading occupations are emerging in the industry in connection with the great program of manufacturing processes and their automation. Workers standing at the control panel will perform purely mental work to a considerable extent. Such work requires quick and correct reaction and orientation. In this connection the researchers face great tasks in the field of the study of concrete problems of the physiology of labor. An important place in research work must be occupied by such problems as substantiation of the work-day regimen and its correct organization, development of new protective means in products connected with radioactive radiation, etc.

There are very important problems also in the field of school hygiene and the hygiene of adolescents. The Supreme Soviet USSR passed a law "On the strengthening of contact between school and life and further development of the system of public education in the USSR" which puts out hygienists, microbiologists, and epidemiologists under obligation to analyze carefully and determine the basic directions of their research work. The newly created Institute of Hygiene of Children and Adolescents must head research on the development of sanitary hygienic norms at school and in industry, as well as the solution of optimal forms of productive labor and training of adolescents with the view of ensuring their good health, physical stamina, and endurance.

The Seven-Year Plan of development of the national economy envisages an immense construction of industrial, residential, and cultural buildings with the use of new construction technique and building materials. In this connection there is a great deal of work ahead for the communal hygiene in conjunction with the Academy of Architecture on the correct planning of construction taking

into account hygienic norms which would ensure conditions needed for the full development and healthy life of Soviet citizens. Hygienists must to an even greater extent than previously display initiative in regard to the devising of measures for air, water, and soil protection.

The Seven-Year Plan envisages a tremendous growth of agricultural production which will assure the population of a satisfactory supply of the most important products of nutrition. Therefore, the Institute of Nutrition AMS USSR and other scientific research institutions which are working in this field will have to carry out vast work in revising previously devised physiological norms of nutrition developing optimal diets in schools, boarding-schools, hospitals, etc.

In implementing the decisions of the 21st Congress of the CPSU, the Central Committee of our Party and the Council of Ministers USSR outlined in their resolution concrete measures for expending public dining. The task of physicians in the implementation of this program is to aid in the hygienically correct organization of nutrition, ensure its physiological and taste value, and differentiate it in accordance with definite occupations, climatic conditions, etc.

The 21st Congress of the CPSU in its decisions paid special attention to the necessity of development of ideological activity and to combat ideological movements and trends inimical to us. This work is urgent also in medical science where it is sharply developing around problems of the structure and functions of protein, conscience and functions of subcortical cerebral formations, etiology of malignant tumors, etc.

The reactionary tendencies of bourgeois science in the West have manifested themselves lately in attempts of a complete revision of the teaching concerning higher nervous activity, in the denial of the higher integrating function of the cerebral cortex, in the replacement of Pavlov's materialist teaching with idealistic Freudian teaching, and in attempts to correlate and reconcile these two opposite trends of science. A sharp ideological dispute developed in medical radiology and microbiology. This fact compels Soviet scientists-physicians to wage an active fight for a Marxist-Leninist world-outlook.

The 21st Congress of the CPSU placed honorable and responsible tasks of great national importance before

Soviet public health and Soviet medical science. The AMS USSR, as the organizing center of Soviet medical science, will exert every effort for the prompt and qualitative fulfillment of these tasks.

END